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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/033,378	10/24/2001	Valentino Liva	JNP-0184.01	7774

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EXAMINER	
BHANDARI, PUNEET	

ART UNIT	PAPER NUMBER
2666	

DATE MAILED: 09/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/033,378	LIVA ET AL.	
	Examiner	Art Unit	
	Puneet Bhandari	2666	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 October 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-55* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-55* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *24 October 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 2.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Applicant is advised to update the status of co-pending application 09/715,992 and 09/800,397 respectively.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. Claims **1-55** are rejected under 35 U.S.C. 102(e) as being anticipated by Nazarathy et al. (US 6,490,727).

Regarding claims **1 & 29,** Fig. 7 of Nazarathy et al. anticipates a fiber node (194) for deployment in a hybrid fiber-coax network (HFCN) at an intermediate point between an upstream HFCN facility (200) and a plurality of subscriber cable modems (18), the fiber node comprising:

a) a packet protocol block having a packet data interface (190), a transmitter data interface (59), and a receiver data interface (59), said packet protocol block (190) communicating subscriber cable modem data (18) with said upstream HFCN (200) facility via said packet data interface (190) is disclosed in Fig 7. Nazarathy et al. The reference discloses a fiber node comprising of an interactive agent-190 (packet data interface), transmitter interface and a receiver data interface communicating with the upstream HFCN facility and subscriber cable modems in column 12, lines 8-25.

b) a plurality of modulators (29) transmitting data to said subscriber cable modems (18) via a downstream analog RF interface (RF distribution unit –42), said transmitted data being provided by said packet protocol block (190) via said transmitter data interface (59) is disclosed in Fig 7. Nazarathy et al and also disclosed in column 12, lines 8-45.

c) a plurality of demodulators (CM demodulators) for extracting data from subscriber cable modems received via an upstream analog RF interface (CM demodulator for demodulating the data received from the split-372-1), said extracted data being provided to said packet protocol block (interactive agent card) via said receiver data interface (the data from split 372-being provided to interactive agent card) as disclosed in fig .18 and column 17, lines 53-67.

Regarding claims **2 & 30,** the limitation cable modems are compatible with DOCIS standard is anticipated by DOCSIS standard disclosed in column 28, lines 22-30.

Regarding claims **3, 16, 31 & 44,** the upstream facility is a head end (202) is anticipated by Fig. 9 block (202) and also disclosed in column 9, lines 54-65.

Regarding claims **4, 18, 32 & 46,** the upstream facility is a secondary head end is anticipated by Fig. 9 block (202) and also disclosed in column 4, lines 63-68.

Regarding claims **5, 20, 33 & 48,** the upstream facility is a hub is anticipated by Fig. 9 blocks (218-1 or 218-2).

Regarding claims **6 & 34**, the limitation channel separation is performed prior to the demodulators (CM demodulator) such that multiple channel are extracted from each physical transmission path of the upstream along RF interface is disclosed in Fig 18. The reference anticipates that splitter (372-1) splits the channels prior to cable modem demodulators such that multiple channels are extracted from each physical transmission path along the RF interface disclosed in column 32, lines 56-67.

Regarding claims **7 & 35**, the limitation including at least one digitizing framer for digitizing modulated signals as received via an upstream analog RF interface, said digitized modulated signal as received via an upstream analog RF interface, said digitized modulated signal data being provided to said packet protocol block via said receiver data interface is disclosed in column 28, lines 20-60 and Fig 15. The reference discloses arranging data packets received from RF interface in Ethernet frame in interactive agent.

Regarding claims **8, 17, 19, 21, 36, 45, 47 & 49,** the limitation the cable modems are compatible with DOCSIS standard is anticipated by network with DOCSIS cable modems disclosed in column 28, lines 20-30 and the limitation modulated signals are

legacy telephone signals is anticipated by legacy modulated signal disclosed in column 28, lines 54-65.

Regarding claims **9 & 37**, the limitation the extracted data and digitized modulated signal are merged in said packet protocol block (190) for communication over a common packet transmission path (300) with the upstream facility is disclosed in column 29, lines 1-25 and Fig 15- (190, 304 & 300). The reference discloses that data from the legacy devices (modulated data) and TDM (digitized data) are merged in the interactive agent card (packet protocol block) for communication over to the upstream facility.

Regarding claims **10 & 38**, the limitation the extracted cable modem data and the digitized legacy telephone data are communicated with said upstream facility via a common Ethernet-compatible transmission path disclosed in column 28, lines 41-60 and column 29, lines 1-25 and Fig 15 (190, 304 & 300) and Fig 8- (214). The reference discloses that discloses that data from the legacy devices (modulated data) and TDM (digitized data) are merged in the interactive agent card (packet protocol block) for communication over to the upstream facility over a common Ethernet-compatible transmission path.

Regarding claims **11 & 39**, the limitation channel separation is performed prior to the digitizing framer, such that at least one selected channel and only selected channels are communicated with said upstream facility is disclosed in columns 32, lines 12-30. The reference discloses that discloses that TDM multiplexer selects one channel to communicate with the selected upstream facility.

Regarding claims **12, 22, 40 & 50,** the limitation channel separation is performed in the digital domain after analog-to-digital conversion is disclosed column 32, lines 12-30. The reference discloses that the data from legacy terminals is converted from analog-to digital and then transmitted on respective channels.

Regarding claims **13 & 41,** the limitation the digitized modulated signal data is compressed prior to being communicated to said upstream facility is anticipated by digital data is modulated prior to being communicated to upstream facility through optical transmitter as disclosed in Fig 15- (304) and column 28, lines 54-60.

Regarding claims **14 & 42**, the limitation reconstruction of the digitized modulated signals is performed at the upstream facility is anticipated by format adapter disclosed in Fig 8 and columns 13, lines 40-62.

Regarding claims **15 & 43**, the limitation a plurality of selected non-contiguous channels having respective modulated signals are concurrently separated and framed is disclosed in Fig 19 and column 34, lines 15-57. The reference discloses channels with modulated with frequency F1 and F2 are concurrently separated and framed.

The limitation merged together for communication over a common Ethernet-compatible transmission path (Ethernet input), and subsequently separated and concurrently reconstructed at the upstream facility (200) disclosed in Fig 8 and columns 13, lines 40-62.

Regarding claims **23 & 51**, fig 19 anticipates channel separation (f1 and f2) is performed by digital receiver with a programmable center frequency (f1 and f2) and bandwidth.

Regarding claims **24 & 52,** the receivers are programmed by sending commands to the fiber node via the packet data interface (interactive agent) is anticipated by Fig 19. column 34, lines 10-63. The reference discloses that interactive agent programs the receiver by sending commands to the respective fiber nodes.

Regarding claims **25 & 53**, the limitation fiber node is an mFN is anticipated by digital fiber node (194) disclosed in fig. 7.

Regarding claims **26 & 54**, the limitation fiber node includes analog combine (59) and a split circuitry (200) coupled to the upstream RF interface (42), the downstream analog RF interface (42) and subscriber cable modems (18) as disclosed in Fig 7.

Regarding claims **27 & 55,** the limitation analog combine (59) and split circuitry (200) is coupled to the subscriber cable modems via a co-axial-cable distribution unit (TAP) as disclosed in Fig.7.

Regarding claim **28**, a hybrid fiber-coax network (HFCN) system is anticipated by Fig 7; comprising:

an upstream HFCN facility (200) is anticipated by head-end (202) disclosed in fig 7.

a plurality of subscriber cable modems is anticipated by cable modems (18) disclosed in Fig 7.

a first plurality of fiber nodes (194-2...,194-5) at intermediate points between said upstream HFCN facility (headend-202) and said plurality of subscriber cable modems (HT-18-1...18-6) is anticipated by fiber nodes (194-2...,194-5), HFCN facility (headend-202) and subscriber cable modems (HT-18-1...18-6) in Fig. 9.

a second plurality (194) of said first plurality of fiber nodes (HT-18-1...18-6 disclosed in Fig 9) have an integral Cable Modem Termination System (CMTS) (interactive agent-190) is anticipated by Fig. 7 elements and refer column 12, lines 8-37.

The limitation each CMTS (interactive agent-190) communicating with at least some of said plurality of cable modems (18) via analog RF (RF distribution 42). The reference discloses that interactive agent is communicates with the cable modem using RF refer column 12, lines 8-37 and Fig 7.

The limitation each CMTS communicating subscriber cable modem (18) data with said upstream HFCN facility (headend-202) via a packet data (Ethernet) refer fig 7 and fig 16 respectively. The reference discloses cable modem communicates with the head-end using Ethernet packets refer column 12, lines 8-37 and column 30, lines 17-65.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Vogel (US 6,751,230), Vogel (US6,785,292), Roeck et al. (US 6,594,305), Chen et al. (US 5,943,604) & Currivan (US 2005/0097617).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Puneet Bhandari whose telephone number is 571-272-2057. The examiner can normally be reached on 9.00 AM To 5.30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on 571-272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Puneet Bhandari
Examiner
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